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Management of Nasopharyngeal Carcinoma Patient in General Hospital Haji Adam Malik Medan

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Abstract

Introduction: Nasopharyngeal carcinoma (NPC) is a malignancy of squamous cells on nasopharyngeal epithelial layer with Rosenmuller fossa with a high incidence especially in Asian region. There is three different histologic subtypes, namely squamous cell carcinoma, nonkeratinizing carcinoma, and undifferentiated carcinoma. Principle of management NPC is radiotherapy because of this kind of carcinoma highly radiosensitive and is the mainstay of treatment for all stages. But in advance case, we need combinatio of radiotherapy and chemotherapy

Case report: *We report* a patient which came to the ENT-Head and Neck Surgery Outpatient Clinic of General Hospital Haji Adam Malik Medan with complaint of tinnitus in the right ear and nasal congestion on the right side. The patient then performed a contrast-enhanced nasopharyngeal MSCT scan with the result: T2aN0M0. The histopathology results : Non Keratinizing Squamous Cell Carcinoma. The patient was given 70 gy of Concurent Chemoradiation (CRT) followed by adjuvant chemotherapy with Cisplatin and 5 Flourouracil (FU).

Conclusion: There was no visible mass on the nasopharynx after using this combination Radiation and Chemotherapy.

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1. CASE REPORT

A 47 years old man came to the ENT-Head and Neck Surgery Outpatient clinic of General Hospital Haji Adam Malik Medan on February 20th, 2020 with complaint of tinnitus in the right ear and nasal congestion on the right side. This complaint has been felt by the patient since the previous 4 months. Previous history of tinnitus in the ears and nasal congestion was denied. History of habitual smoking was found since adol. History of consuming salted fish was found. There was no lump in the neck. There was no history of epistaxis. The patient then performed a contrast-enhanced nasopharyngeal MSCT scan on February 21, 2020 with the result: T2N0M0. The histopathology results on March 9, 2020: Non-Keratinizing Squamous Cell Carcinoma. The patient was given 70 gy of Chemoradiation (CRT) accompanied through adjuvant chemotherapy with Cisplatin + 5 Fu for 3 cycles. During CRT, the radiation beam was given in single fraction which is 2.0 gy in one fraction every Monday to Friday. Before the radiation started, the patient has concurrent Chemotherapy, then followed after 15th and 30th radiation. After 35 times of radiation and 3 concurent chemotherapy, then continued in adjuvant chemotheraphy. The patient was evaluated on December 16, 2020 and from the contrast enhanced nasopharyngeal MSCT Scan, the results were: There was no visible mass on the nasopharynx. After this report was made there is no evidence the mass was came back.

2. DISCUSSION

Nasopharyngeal carcinoma (NPC) is a head-neck malignancy with an excessive occurrence mainly in Asian region. Also in developing country like indonesia NPC has highly prevalence in head-neck cancer with most of the type is squamous cell type 3 exclusive histologic subtypes, specifically squamous cell carcinoma, non-keratinizing cell carcinoma, and undifferentiated carcinoma [1]. In anatomical view, this tumor is bobbing up from the epithelial cells that cowl the floor of the nasopharynx. Data in 2013, the prevalence of carcinoma in Indonesia was estimated to 1.4% or around 347,792 people which from General Hospital H. Adam Malik Medan, majority prevalence of nasopharyngeal cancer patients are Men [2, 3]. Cigarette smoking additionally has enormous hazard element for inflicting most cancers especially in nasopharynx due to the additives of cigarette contents have carcinogenic capacity along with nitrosamines and formaldehyde [1]. Mucosa of nasopharynx may be immediately uncovered through cigarette smoke this is inhaled and may set off most cancers withinside the touch area [4]. But habitual smoking cannot be stand alone as a risk factors for NPC. There are many factors can be influence as a risk factor. Beside of that, habitual smoking can affect the clinical stadium of NPC [1]. In other case, consumption of salted fish has clearly increased the incidence of NPC case. The carcinogenic content in salted fish, such as nitrosamine, is one of the most etiologic factors was mentioned [5, 6]. The history of consumption salted fish since school age and the use of firewood, will increase each other as risk factors the incident of NPC. In Hasan Sadikin Bandung General risk factors that increase the prevelance of NPC consists of a long term of smoking (50.7%), use of mosquito repelling coils (43.2%), history of salted fish consumption (39.7%), alcohol consumption (14.1%), and a family history of cancer (7%) [7]. Succesful management and prognostic of NPC is clearly depand on are the stadium, WHO histopatological type, and age at diagnosis [8]. In this case we found unilateral tinitus and unilateral nasal blockage. NPC case in early stage is difficult to assess, because most of them has come after the tumor was growth and they have complaint about neck lump in different aspect the issue of early NPC prognosis is resulting from unspecified early signs consisting of ear and nostril complaints. In malignancy case, ear complaints typically best in unilateral aspect. But if the affected person got here early, it is able to be obtain greatest outcomes of treatment [9]. According of a previous study in Cipto Mangunkusumo General Hospital, about 58.1 % NPC patient has showed a neck lump. In this case patient dont have neck lump. According that clinical finding, this early stage has better prognosis.

Yussy et al was showing in Hasan Sadikin Bandung General Hospital patient who was came with advanced stage tumors (T3-T4) were 76 (56%) and early stage tumor (T1-T2) were 59 (44%). In that T3-T4 Stadium, they found reccurent case of NPC (10). Nasopharyngeal carcinoma is a rare malignancy in children. NPC case in children constitutes 1-5% of all pediatric cancers and 20-50% of all primary nasopharyngeal malignant tumors in children [11]. In this case, age of patient is 47 years old. In high-incidence area, ages of 40-60 years old was the most prevalence [12]. Diagnostic tools for this case is use CT Scan and Histopathology but histopathology result is still as a gold standart for diagnosis of NPC (13). Report from Lily et al, diagnostic device which may be used to decide the degree is the use of radiological content material consisting of Computed Tomography Scanning (CT-Scan) with contrast, Ultrasonography (USG) and thorax rontgen [13].

According to Setiani et al Retrospective studies finished through evaluating radiation doses, they observed that the radiation dose given >60 Gy, 5-12 months sickness unfastened survival charge turned into reached to 70% in T1-T2 sufferers in comparison to simplest 20% in T3-T4 [13]. According to NCCN 2021, staging in NPC was described here [14]:

Table 1. Tumour in Nasopharynx (T)

Tx	Primary tumour cannot be assessed
T0	No diagnosed tumour, however fine cervical EBV involvement
T1	Tumour is restricted in nasopharynx or expands to oropharynx nasal hollow space with none enlargement to parapharyngeal area
T2	Tumour with enlargement to parapharyngeal area or adjoining tender tissue involvement (medial pterygoid, lateral pterygoid, and prevertebral muscles)
T3	Tumour erodes the bone and or paranasal sinuses
T4	Tumour expands intracranially and or invades the cranial nerves, infratemporal fossa, hypopharynx or orbit, parotid gland, and or good-sized gentle tissue infiltration out of doors the floor of lateral pterygoid muscle.

According to this case, the tumor was on right side of nasopharynx and expanded to the parapharynx. There is no destruction of skull base bone. So we conclude this tumor is in T2 staging.

Table 2. Lymph Nodes (N)

Nx	Regional lymph nodes cannot be determined
N0	No metastasis to local lymph nodes
N1	Metastasis to unilateral local lymph nodes, with the dimensions of 6 cm or less, above the caudal margin of cricoid cartilage
N2	Metastasis to bilateral local lymph nodes, with the dimensions of 6 cm or less, above the caudal margin of cricoid cartilage
N3	Metastasis to the lymph nodes of the cervix unilaterally or bilaterally, with the biggest length of extra than 6 cm, and or extension to the place beneathneath the margin of cricoid cartilage

According to this case, from Iv-Contrast Nasopharyngeal Scan there is no metastasis to the regional lymph nodes, so in Lymph nodes staging was N0.

Table 3. Distant Metastasis (M)

M0	No distant metastasis
M1	Distant metastasis

In this case there is no distant metastasis. So we conclude in this case staging was T2N0M0 (Stadium II).

Table 4. Staging

	Tis	N0	M0
Stage 1	T1	N0	M0
Stage 2	T0-T1	N1	M0
	T2	N0	M0
	T2	N1	M0
Stage 3	T0	N2	M0
	T1-T2	N2	M0
	T3	N0	M0
	T3	N1	M0
	T3	N2	M0
Stage 4A	T4	N0	M0
	T4	N1	M0
	T4	N2	M0
	Any T	N3	M0
Stage 4B	Any T	Any N	M1

According on this case, this patient was giving combination of Radiotherapy (RT) and concurrent chemotherapy. After giving Chemoradiotherapy (CRT), then the patient is continued with adjuvant chemotherapy. Principle of management NPC is radiotherapy because of this kind of carcinoma highly radiosensitive and is primary treatment for all stages [5]. In other side, combination of definitive radiotherapy (RT) and addition with concurrent chemotherapy is the standard treatment for patients with loco-regionally advanced NPC [14]. Agent of chemotherapy regiment for NPC is Platinum-primarily based totally which include cisplatin, carboplatin, and oxaliplatin, satraplatin, and transplatin. Platinum primarily based totally agent were used notably in clinics seeing that thirty years in the past withinside the remedy of malignant head-neck tumors [15].

Table 5. Management of NPC (16)

Stage	NCCN (2018)	EHNS-ESMO-ESTRO(2012)
Stage 1	Radiotherapy only	Radiotherapy only
Stage 2	RadioChemotherapy : Concurent + Adjuvan (2A),Concurent (2B) Or Induction + Concurent (2B)	RadioChemotherapy : Concurent (1B)
Stage 3	RadioChemotherapy: Concurent + Adjuvan (2A),Concurent (2B) Or Induction + Concurent (2B)	RadioChemotherapy: Concurent ± Adjuvant 1A
Stage 4A	RadioChemotherapy: Concurent + Adjuvan (2A),Concurent (2B) Or Induction + Concurent (2B)	RadioChemotherapy: Concurent ± Adjuvant 1A or Induction + Concurrent (2B)
Stage 4B	Chemotherapy or RadioChemotherapy	

Also, drug of choice for adjuvant chemotherapy in this patient is using combination of Cisplatin + 5 Flourouracil (PF). With present day evidence, the addition of concurrent cisplatin plus adjuvant PF to traditional fractionated radiotherapy has virtually higher development in control of NPC [16]. In other review, the addition of adjuvant chemotherapy in 1-3 cycles seemed to provide benefits to patients [17]. After the combination of theraphy, we evaluated this patient with computed tomography iv-contrast. Using CT-Scan is essential not only for detection of early NPC, staging of the primary tumor, however it is able to be the use of for comparing scientific final results after theraphy and assessment of local lymphadenopathy [18].

3. CONCLUSION

Using combination of Chemoradiation following adjuvant chemotherapy in this patient is the best therapy for this patient. Beside that, early diagnosis in NPC was giving better result of this management. It clearly see the stadium tumor was reduce in CT-Scan evaluation after using that combination therapy.

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